



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/712,191	11/15/2000	Fumito Takemoto	2091-0222P-SP	8109

7590 07/31/2006
Birch Stewart Kolasch & Birch LLP
PO Box 747
Falls Church, VA 22040-0747

EXAMINER

BHATNAGAR, ANAND P

ART UNIT	PAPER NUMBER
----------	--------------

2624

DATE MAILED: 07/31/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/712,191	Applicant(s) TAKEMOTO, FUMITO	
	Examiner Anand Bhatnagar	Art Unit 2624	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 07/10/06.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-24 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-24 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 15 November 2000 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 07/10/06 has been entered.

Response to Amendment

2. Applicant's representative in essence argues that neither Fukui et al. (U.S. patent 6,466,685), Kado et al. (U.S. patent 6,181,806), nor Fujimoto et al. (U.S. patent 6,035,074) teaches alone or in combination the feature of performing position matching using an **unsharp** template and/or **unsharp** image for facial extraction. Examiner disagrees. Broadly reading applicant's unsharp template and unsharp image examiner reads these as "a template" and "an image," respectively, since applicant's representative does not define what applicant's unsharp template and/or unsharp image to be. Are the unsharp templates and unsharp images just originally obtained templates and images which have not undergone any filtering or any other type of image enhancement? Are they templates and images that were sharp templates and images but are unsharpened for position matching? Etc. As known to one skilled in the art that all **originally obtained** images, including templates, are unsharp until they are enhanced by some type of image

processing. Therefore, examiner reads applicant's unsharp templates and images as "a template" and "an image," respectively.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 1-24 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. Regarding claims 1, 8, 15, and 24 applicant states in the limitations that there is position matching between an unsharp template and an unsharp image wherein the unsharp template and/or unsharp image undergoes transforming and/or rotating for position matching. As described in the specification applicant performs position matching, by rotating and/or transforming the template and/or image, using a template and an image but not an unsharp template and an unsharp image. Nowhere in the specifications applicant describes the position matching, described above, taking place with an unsharp template and unsharp image. Applicant actually is using the unsharp template and unsharp image after the position matching is already performed with a template and an image. Further, applicant is using the unsharp template and unsharp

images for the purpose of calculating the degree of matching which is after position matching (see pages 5-7 of applicant's specification).

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

A.) Claims 1-3, 8-10, and 15-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fukui et al. (U.S. patent 6,466,685 B1).

Regarding claims 1, 8, and 15: A method of extracting a face area from an image including a human face (Fukui et al.; fig. 4 elements 11-13, col. 1 lines 5-9, and col. 7 lines 47-50), the face extraction method comprising the steps of:

displaying the image and a predetermined face template (Fukui et al.; fig. 4 element 21);

carrying out position matching between the face template and the face area to be extracted, by moving an unsharp face template, i.e. a template, and/or an unsharp image, i.e.. an image, so that the face template is positioned on the face area to be extracted, transforming and/or rotating the unsharp face template and/or the unsharp image on the face area position (Fukui et al.; col. 7 lines 66-67 and col. 8 lines 1-40, the normalization of the image is read as the transformation and the shifting of the template on the face image is read as the moving of the template on the face image.); and

extracting the face area based on a result of position matching (Fukui et al.; fig. 4 element 12).

Fukui et al. discloses to extract a face from an image by using templates and shifting them over the face to determine the highest correlation values in order to extract the face (Fukui et al.; col. 8 lines 1-11). Fukui further discloses to display the result on a display (Fukui et al.; fig. 4 element 21). Fukui et al. does not teach to have a user input nor displaying the image and a predetermined face template. It would have been obvious to one skilled in the art to incorporate having an user input the system as well as to having the displaying of the image and predetermined face template simultaneously in order to make any manual corrections that need be based on the result of the match.

Regarding claims 2, 9, and 16: A face extraction method wherein the step of extracting the face area comprises the steps of:

calculating a degree of matching between the face template and the face area in accordance with the position matching (Fukui et al; col. 8 lines 1-11, wherein the correlation values, i.e. degree of matching, are determined to locate and extract the face in an image); and

extracting the face area based on the degree of matching (Fukui et al; col. 8 lines 1-11, wherein the correlation values, i.e. degree of matching, are determined to locate and extract the face in an image).

Regarding claims 3, 10, and 17: Examiner takes Official Notice since blurring and image and/or a template to perform image correlation is well known in the art.

B.) Claims 4, 5, 11, 12, 18, and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fukui et al. (U.S. patent 6,466,685 B1) and Kado et al. (U.S. patent 6,181,806).

Regarding claims 4, 5, 11, 12, 18 and 19: A face extraction method wherein the face template has a three-dimensional shape and is a wire frame.

Fukui et al. discloses a system wherein facial comparison is performed between an original image and a template in order to extract a face from an image. Fukui et al. does not teach wherein the standard image/template is a 3D image and a wire frame. Kado et al. teaches to have the standard image/template be a 3D wire frame image (Kado et al. figs. 9-11, col. 2 lines 34-36, and col. 3 lines 56-60). It would have been obvious to one skilled in the art to combine the teaching of Kado et al. to that of Fukui et al. because they are analogous in extracting features from a facial image using templates/models. One in the art would have been motivated to incorporate the teaching of Kado et al. into the teaching of Fukui et al. for identifying persons that performs identification with high accuracy against minor fluctuations of photographing conditions such as illumination conditions and the position of the face (Kado et al.; col. 1 lines 55-60).

C.) Claims 6, 7, 13, 14, and 20-24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fukui et al. (U.S. patent 6,466,685 B1) and Fujimoto et al. (U.S. patent 6,035,074).

Regarding claims 6, 7, 13, 14, and 20-23: A face extraction method as defined in Claim 1, wherein the face template has a color different from a skin color/complementary color of the skin/color tone of a predetermined target image.

Fukui et al. discloses a system wherein facial comparison is performed between an original image and a template to extract a face in an image. Fukui et al. does not teach to change an area in the image from a skin color to another color especially a complementary color of the skin. Fujimoto teaches to change the color of a facial image to the complementary color of the skin (Fujimoto et al.; fig. 7 and col. 9 lines 10-27, this is also read as a different color from skin as well as a color tone of a predetermined target image). It would have been obvious to one skilled in the art to combine the teaching of Fujimoto et al. to that of Fukui et al. because they are analogous in image processing of facial images. One in the art would have motivated to incorporate the teaching of Fujimoto et al. to the disclosure of Fukui et al. so that a user can verify the coordinates of the facial region (Fujimoto et al.; col. 9 lines 26-40)

Claim 24: It is rejected for the combination of reasons of Claims 1/8/15 with that of 22/23.

Conclusion

5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Koitabashi et al. (U.S. patent 5,640,243) for pattern matching using templates.

Art Unit: 2624

Contact Information

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Anand Bhatnagar whose telephone number is (571) 272-7416, whose supervisor is Jingge Wu whose number is (571) 272-7429, Central fax is 571-273-8300, and Tech center 2600 customer service office number is 703-306-0377.



Anand Bhatnagar

Art Unit 2623

July 20, 2006



**VIKKRAM BALI
PRIMARY EXAMINER**